**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

11. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 1** or **Claim 4** is covalently linked to a natural or synthetic polymer used to construct a synthetic

vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

12. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

13. (withdrawn) A method of modulating cartilage differentiation in mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

14. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

15. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

16. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 1** or **Claim 4** interacts with at least one sequence or structural domain of said glycosaminoglycan.

17. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

18. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 1** or **Claim 4** is administered to said mammal.

19. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim** 5 is administered to said mammal.

20. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 2** or **Claim 5** is covalently linked to a natural or synthetic polymer used to construct a synthetic vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

21. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

22. (withdrawn) A method of promoting cartilage differentiation in mammal, wherein therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

23. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

24. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

25. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 2** or **Claim 5** in interacts with at least one sequence or structural domain of said glycosaminoglycan.

26. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

27. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 2** or **Claim 5** is administered to said mammal.

28. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

29. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 3** or **Claim 6** is covalently linked to a natural or synthetic polymer used to construct a synthetic vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

30. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

31. (withdrawn) A method of promoting cartilage differentiation in mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

32. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

33. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

34. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 3** or **Claim 6** in interacts with at least one sequence or structural domain of said glycosaminoglycan.

35. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

36. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 3** or **Claim 6** is administered to said mammal.

37. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

38. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 7** is covalently linked to a natural or synthetic polymer used to construct a synthetic vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

39. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

40. (withdrawn) A method of promoting cartilage differentiation in mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

41. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

42. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

43. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 7** in interacts with at least one sequence or structural domain of said glycosaminoglycan.

44. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

45. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

46. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

47. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 8** is covalently linked to a natural or synthetic polymer used to construct a synthetic vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

48. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

49. (withdrawn) A method of promoting cartilage differentiation in mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

50. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

51. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

52. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 8** in interacts with at least one sequence or structural domain of said glycosaminoglycan.

53. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

54. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

55. (withdrawn) A method of modulating heparin or other glycosaminoglycans with anticoagulant activity in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

56. (withdrawn) A method of promoting cell attachment or adhesion to natural or synthetic surfaces in a mammal, wherein an effective amount of the peptide of **Claim 9** is covalently linked to a natural or synthetic polymer used to construct a synthetic vein graft surface and wherein said peptide interacts strongly with endothelial cell surface proteoglycans to promote cell attachment and graft endothelialization in vivo in said mammal or in vitro prior to surgical implantation of a vein graft in said mammal.

57. (withdrawn) A method of modulating tumor cell metastasis a growth in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

58. (withdrawn) A method of promoting cartilage differentiation in mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

59. (withdrawn) A method of targeting drugs in a mammal to cell surfaces of endothelium or other cell types expressing proteoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

60. (withdrawn) A method of modulating enzymes that act on glycosaminoglycan substrates in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

61. (withdrawn) A method of affinity purification of bioactive sequences of a glycosaminoglycan, wherein an effective amount of the peptide of **Claim 9** in interacts with at least one sequence or structural domain of said glycosaminoglycan.

62. (withdrawn) A method of modifying endothelial cell pro-coagulant or anticoagulant functions mediated through glycosaminoglycans in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

63. (withdrawn) A method of modulating wound healing in a mammal, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

64. (canceled)

65. (canceled)

66. (canceled)

67. (canceled)

68. (canceled)

69. (canceled)

70. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 1** is administered to said mammal.

71. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 2** is administered to said mammal.

72. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 3** is administered to said mammal.

73. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 7** is administered to said mammal.

74. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 8** is administered to said mammal.

75. (withdrawn) A method of blocking tissue uptake and clearance of heparin or other glycosaminoglycans in a mammal to increase heparin half-life in circulation, wherein a therapeutically effective amount of the peptide of **Claim 9** is administered to said mammal.

76. (new) A synthetic peptide of a formula selected from the group consisting of $(XBBBXXBX)_n$, $(XBXXBBBX)_n$, $(XBBXBX)_n$, and $(XBXBBX)_n$, wherein:

each B is independently selected from the group consisting of arginine and lysine residues;

each X is independently any amino acid residue; and

n is at least 2.

77. (new) A synthetic peptide according to claim 76, wherein n is from 2 to 6.

78. (new) A synthetic peptide according to claim 77, wherein:

each X is independently selected from the group consisting of alanine and glycine residues.

79. (new) A synthetic peptide according to claim 78, wherein said peptide is selected from the group consisting of amino acid sequences SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:13, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56,

80. (new) A synthetic peptide according to claim 76, which comprises at least one D-amino acid residue.

81. (new) A synthetic peptide according to claim 77, which comprises at least one D-amino acid residue.

82. (new) A synthetic peptide of a formula selected from the group consisting of $(XBBBXXBX)_n$, $(XBXXBBBX)_n$, $(XBBXBX)_n$, and $(XBXBBX)_n$, wherein:

each B is independently selected from the group consisting of arginine and lysine residues;

each X is independently any amino acid residue;

n is at least 2;

except that a single cysteine residue is contained in said synthetic peptide at a position within three amino acid residues of the N-terminus or the C-terminus of said synthetic peptide.

83. (new) A synthetic peptide according to claim 82, wherein n is from 2 to 6.

84. (new) A synthetic peptide according to claim 83, wherein:

each X is independently selected from the group consisting of cysteine, alanine and glycine residues.

85. (new) A synthetic peptide according to claim 84, wherein said peptide is selected from the group consisting of amino acid sequences SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, and SEQ ID NO:38.

86. (new) A synthetic peptide according to claim 82, which comprises at least one D-amino acid residue.

87. (new) A synthetic peptide according to claim 83, which comprises at least one D-amino acid residue.

88. (new) A synthetic concatameric peptide wherein the sequence of amino acid residues of said peptide is represented by at least two segments selected from the group consisting of XBBBXXBX, XBXXBBBX, XBBXBX, and XBXBBX, wherein:

said peptide does not comprise only XBBBXXBX segments;

said peptide does not comprise only XBXXBBBX segments;

said peptide does not comprise only XBBXBX segments;

said peptide does not comprise only XBXBBX segments;

each segment is separated from an adjacent segment by at least one of any amino acid residue;

each B is independently selected from the group consisting of arginine and lysine residues; and

each X is independently selected from the group consisting of alanine and glycine residues.

89. (new) A synthetic concatameric peptide wherein the sequence of amino acid residues of said peptide is represented by at least two segments selected from the group consisting of XBBBXXBX, XBXXBBBX, XBBXBX, and XBXBBX, wherein:

said peptide does not comprise only XBBBXXBX segments;

said peptide does not comprise only XBXXBBBX segments;

said peptide does not comprise only XBBXBX segments;

said peptide does not comprise only XBXBBX segments;

each segment is separated from an adjacent segment by at least one of any amino acid residue;

each B is independently selected from the group consisting of arginine and lysine residues; and

each X is independently selected from the group consisting of cysteine, alanine and glycine residues, except that a single cysteine residue is contained in said synthetic peptide at a position within three amino acid residues of the N-terminus or the C-terminus of said peptide.